

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Rajaiah et al. Examiner: Name: Tony Ko
Serial No.: 10/799,850 Group Art Unit: 2878
Filed: March 12, 2004 Attorney Docket No.: 70040132-1
Confirmation No.: 1751
Title: A Method and Apparatus for Automatic Modulation of Photo-Emitter
Brightness in an Optical Encoder

RESPONSE AND AMENDMENT AFTER FINAL

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Arlington, VA 22313-1450

Sir:

In response to the Final Office Action mailed February 21, 2007, Applicants respectfully request entry of the amendments set forth herein, and allowance of the above-identified patent application as amended herein, or in the alternative entry of the amendments set forth herein so that an Appeal Brief with corrected claims may be filed.

DATE OF DEPOSIT: April 22, 2007

CERTIFICATE OF ELECTRONIC DEPOSIT: I hereby certify that all paper(s) described herein are being filed electronically with the United States Patent and Trademark Office on the date indicated above and addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature: _____

Printed Name: Thomas F. Woods, Reg. No. 36,726

I. Amendments

Listing of the Claims:

The below listing of claims replaces all previous versions of all claims presented in the present application. Please amend claims 4 and 15 as follows:

1-3. (previously cancelled)

4. (currently amended) An optical encoding system comprising:

a photo-emitter;

a code strip comprising:

a calibration area for generating a calibration signal, wherein said calibration area comprises a degree of transparency, wherein said transparency decreases as contaminants collect on said code strip;

an indexing area for generating an indexing signal; and

an encoding area for generating an encoding signal;

a photo detector comprising:

a calibration photodiode for converting a light from the calibration area into an electrical calibration signal, wherein said calibration signal is used to determine said degree of transparency of said calibration area;

an indexing photodiode for converting light from said indexing area into an electrical indexing signal; and

an encoding photodiode for converting light from said encoding area into an electrical encoding signal; and

a circuit coupled with said detector and said photo-emitter, wherein if said degree of transparency of said calibration area is insufficient, said circuit increases a current to said photo-emitter to compensate for said insufficient transparency of

said code strip based on said calibration area with no input signals being provided to said circuit from said encoding area or said indexing area.

5-7. (previously cancelled)

8. (previously presented) The optical encoding system of Claim 4, wherein said code strip is arranged such that light from the photo-emitter passes through transparent areas on said code strip.

9. (previously presented) The optical encoding system of Claim 4, wherein said detector is arranged to receive light which passes from said photo-emitter through transparent areas on said code strip.

10-13. (previously cancelled)

14. (previously presented) The optical encoding system of Claim 4, wherein said circuit modulates current to said photo-emitter in response to said calibration signal originating from said calibration photodiode on said detector.

15. (currently amended) An optical encoding method comprising:
generating light from a light source;
transmitting said light through a code strip, said code strip comprising a calibration area, an indexing area and an encoding area;
receiving said light after it has been transmitted through said calibration area;
converting said light transmitted through said calibration area into a calibration signal;

using said calibration signal to determine whether or not a degree of transparency of said calibration area is sufficient, wherein said degree of transparency is decreased as contaminants are deposited on said code strip; and if said transparency of said calibration area is insufficient, increasing a current to said light source to compensate for said insufficient transparency of said code strip based on said calibration area with no input signals being provided to said circuit from said encoding area or said indexing area.

16. (original) The optical encoding method of Claim 15, wherein the calibration signal is a function of a degree of transparency of the calibration area of the code strip.

17. (previously presented) The optical encoding method of Claim 15, wherein the brightness of said light is controlled by an electrical calibration signal.

18. (original) The optical encoding method of Claim 15, wherein the brightness of said light is a function of the degree of transparency of the calibration area of said code strip.

19. (previously presented) The optical encoding system of Claim 4 further comprising a wiper, wherein if said degree of transparency of said calibration area is insufficient, said wiper wipes said code strip to remove said contaminants deposited on said code strip.

20. (previously presented) The optical encoding method of Claim 15 further comprising operating a wiper to remove said contaminants from said code strip to increase said transparency of said code strip, if said transparency is insufficient.